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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/517,445 | 12/09/2004 | Toshihiro Nishii | 2004-1930A | 8623 |
| 513 | 7590 | 10/18/2006 | EXAMINER | |
| WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021 | | | NGUYEN, DONGHAI D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3729 | |

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/517,445 | | NISHII ET AL. | |
| | Examiner | | Art Unit | |
| | Donghai D. Nguyen | | 3729 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/9/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Invention I, claims 1-7 in the reply filed on August 1, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Thus claims 8 and 9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Drawings

2. Figures 6-10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 is objected to because of the following informalities: "the first direction of" claim 1, line 7) should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,470,858 to McMaster.

McMaster discloses a method, comprising: transferring a first sheet (22/300, see Figs. 5 and 24) having a first direction (long-side direction) in a second direction (right to left), so that the first direction of the first sheet is parallel to the second direction (see figs. 24-25); and sticking films (30, 30a, 310) onto both surfaces of the first sheet while transferring the first sheet in a third direction orthogonal (vertical) to the first direction of the first sheet (see figs. 24-25).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of US Patent 6,425,969 to van den Akker.

Regarding claim 1, AAPA discloses a method of manufacturing a circuit board, comprising: transferring a first sheet (13) having a first direction (202) in a second direction

(201), so that the first direction of the first sheet is parallel to the second direction (see Fig. 6); and sticking films (14) onto both surfaces of the first sheet. However, AAPA does not teach transferring the first sheet in a third direction orthogonal to the first direction of the first direction of the first sheet. Van den Akker teaches the step of transferring the first sheet (9) in a third direction (left-right) orthogonal to the first direction (down-up) of the first sheet (9, see Figs. 3 and 12) while attaching the first sheet (9) to another first sheet in transverse direction for forming a laminate structure having uniform thickness (See Col. 6, lines 10-14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the AAPA by utilized the transferring first sheet in the third direction orthogonal to the first direction of the first sheet as taught by Van de Akker to obtain a circuit board having uniform thickness.

Regarding claim 2, AAPA discloses sticking the films (14) comprises pressing the films on the first sheet with a heated roller (15) while transferring the first sheet in the third direction.

Regarding claims 3 and 4, AAPA discloses impregnating a reinforcing member of woven fabric (fiber sheet or glass cloth 11) with impregnation material (12) while transferring the reinforcing member in the second direction (201) so as to provide the first sheet (13), the reinforcing member having a direction corresponding to the first direction (202) of the first sheet, the direction of the reinforcing member being parallel to the second direction.

Regarding claim 5, AAPA discloses forming a via-hole (17) in the first sheet having the films stacked thereon; filling the via-hole with conductive paste (18); peeling off the films from the first sheet (See Fig. 9D); and heating and pressing metallic foils (19) onto both surfaces of the first sheet after said peeling off the films (See Fig. 9F).

Regarding claims 6 and 7, AAPA discloses the first sheet (13) has a rectangular shape having a long-side direction and a short-side direction, and the long-side direction is orthogonal to the first direction of the first sheet (see Fig 6).

Regarding claim 7, AAPA discloses cutting a second sheet (16) while transferring the second sheet in the second direction as to providing the first sheet (see Fig. 7).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art references cited for their teachings of manufacture prepreg.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (571)-272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (571)-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN

October 13, 2006



MINH TRINH
PRIMARY EXAMINER